PATENT

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the PATENT application of

Tom Schilson et al.

Application No.: 09/454,333

Filing Date: December 3, 1999

For: FLAT CABLE AND MODULAR ROTARY ANVIL TO MAKE SAME

Group Art Unit: 2831

Examiner: William H. Mayo III

Atty. Dkt.: 115584-00287

Date: May 20, 2003

AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This Amendment is filed in response to the Office Action dated December 27, 2002. Filed concurrently is a Request for a Two-Month Extension of Time. Please amend the above-identified application as follows:

In the Abstract:

Please replace the Abstract with the following:

--A flat electrical cable and a modular rotary anvil for assembling a flat electrical cable is provided wherein the flat cable includes an upper and lower layer. The upper layer has ribs protruding along its length that are substantially parallel to one another, and continuous substantially parallel and adjacent seams formed therebetween. Conductors are placed between the upper and lower layers adjacent the seams. The present invention may have upper and lower polyester layers having copper conductors therebetween and the seams ultrasonically welded in order to provide a flat electrical cable for various applications such as incorporation in an automobile clockspring. The modular rotary anvil includes multiple removable and interchangeable segments or inserts which provide the ability to impart a smooth or knurled

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interchangeable segments or inserts which provide the ability to impart a smooth or knurled textured surface pattern to the work-piece. Other inserts include cutting inserts which provide for a seam on the work-piece while a the same time cuts the work-piece along a seam.--segments or inserts which provide the ability to impart a smooth or knurled textured surface pattern to the work-piece. Other inserts include cutting inserts which provide for a seam on the work-piece while a the same time cuts the work-piece along a seam.—

In the Claims:

Please cancel claims 31-79.

RESPONSE

The Office Action dated December 27, 2002 has been carefully considered and this application has been amended in a manner which it is believed places it in condition for allowance. Accordingly, reconsideration of this application and allowance of all pending claims is respectfully requested.

The Abstract has been amended in response to the Examiner's objection that it contains a run-on sentence in lines 2-3. Withdrawal of the objection is respectfully requested.

Claims 1-84 are pending in the application. Claims 31-79 have been cancelled as being drawn to a non-elected invention.

Claims 1, 2, 6, 9, 11, 13, 15, 22, 23, 25, 30, 80, 83 and 84 are rejected under 35 U.S.C. § 102(b) as being anticipated by Hara (U.S. Pat. No. 5,250,127). Claims 3, 4, 7, 8, 10, 12, 16-21, 81 and 82 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hara in view of Richter (U.S. Pat. No. 3,168,617). Claims 5, 24, 28 and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hara in view of Huber (U.S. Pat. No. 4,952,020). Claim 14 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hara in view of Love (U.S. Pat. No. 3,239,916). Claims 26 and 27 are rejected under 35 U.S.C. § 103(a) over Hara in view of Coon (U.S. Pat. No. 4,780,157).

The rejection of claims 1, 2, 6, 9, 11, 13, 15, 22, 23, 25, 30, 80, 83 and 84 under 35 U.S.C. § 102(b) as being anticipated by Hara are respectfully traversed. In particular, the Examiner appears to be relying on flat wire shown in Fig. 3 of Hara in the rejection of the claims. Fig. 3 shows a flat wire having conductors 2 and 4 sandwiched between upper and lower insulation tapes 10 (col. 1, lines 61-68). Applicant respectfully traverses the Examiner's rejection

Claims 1 and 30 recite that the conductors have no adhesive residue on thereon. The Examiner has interpreted Hara's failure to specifically disclose an adhesive with regard to the flat wire of Fig. 3 as the grounds for the rejection. However, the flat wire of Fig. 3 is described as having upper and lower insulation *tapes 10*, the term "tape" being traditionally understood to have adhesives thereon to provide a securing or attaching means. This interpretation is particularly relevant in light of the fact that no other attaching means is disclosed by Hara (as the Examiner rightly noted). Therefore, for the two insulation *tapes* 10 to be secured, one skilled in the art would assume that an adhesive were used thereon. Furthermore, the use of an adhesive is suggested by Hara's disclosure that "a technique for the effective removal of insulation tape 10 covering grounding line 4 has not been known" (col. 1, lines 66-68). This implies that the insulation tape is somehow bonded to the grounding line making its removal difficult, the most obvious method of bonding being the use of an adhesive.

Furthermore, the Applicant disagrees with the Examiner's argument that because Hara disclosed the use of adhesives with respect to his invention, Hara's failure to disclose an adhesive with respect to Fig. 3 is evidence of lack of an adhesive. An Applicant's duty of disclosure with respect to his own invention is much higher than with respect to disclosures with respect to the prior art. The fact that the Applicant failed to disclose an adhesive with respect to the flat wire of Fig. 3 does not necessarily mean that an adhesive is missing, but that the Applicant did not feel it necessary to disclose what he believed to be an irrelevant feature.

Therefore, in light of the arguments made above, it is believed that the flat wire in Fig. 3 of Hara includes an adhesive that bonds the conductors to the insulation tape and consequently, that Hara fails to meet the claim limitations of claims 1 and 30.

Claims 1, 18, 21 recite that the seams have a "textured surface pattern" and the seams along the edges of the flat electrical cable have a "substantially smooth surface pattern." The Examiner states that Fig. 3 of Hara discloses a "textured surface and a non-bonded region (where the conductors are present and denoted as 40 in Figure 3, see attachment)." The Applicant respectfully disagrees with the Examiner and believes that Hara does not disclose a textured surface. A review of attached Fig. 3 shows no textured surface. Examiner is apparently referring to reference number 25 (rather than 40) in Fig. 3 which shows "shadow" lines on the surface of the top insulation layer 10. The shadow lines are an aesthetic feature of the drawings and not structural features of the flat wire. Furthermore, there is no description or suggestion in the specification to indicate that the insulation tape 10 has a textured surface (see col. 1, lines 61-68). Therefore, Fig. 3 does not show a flat electrical cable having a textured surface as recited in claims 1, 18 and 21.

Claims 6, 18 and 21 recite that at least one of the seams are ultrasonically bonded. The Examiner's rejection is confusing in that he states that he "agrees that ultrasonic welding structurally defines over adhesive bonding," implying that ultrasonic welding includes structural limitations, then goes on to state that ultrasonic welding is structurally the same as bonding without using adhesives. As an initial matter as stated above, Applicant believes that the flat wire in Fig. 3 of Hara uses adhesives to bond the insulation tapes. However, even assuming that no adhesive is used in the flat wire of Fig. 3, there is no teaching or suggestion of what the bonding method is in Fig. 3 of Hara, let alone whether the structure of the unknown bonding method is the same as the structure of ultrasonic bonding. The Examiner appears to be equating any type of non-adhesive bonding to ultrasonic welding, which is simply incorrect. Under this logic, using screws (i.e. non-adhesive bonding) to bond the insulation tapes would have the same structure as ultrasonic welding. Ultrasonic welding has a definitive structure, which Examiner appears to recognize by his admission that it is structurally different from adhesive bonding, that is also structurally different from non-adhesive bonding, or other bonding methods.

Applicant would further like to note, that the extrusion process as disclosed with respect to the flat wire of Fig. 1, would not result in a structure identical to the structure of ultrasonic bonding. Cables that are extruded are not bonded in any way, they come out of the extrusion

mold in a completed form. In an extrusion process, the resin is heated to a molten state and molded around the cables. Therefore, Hara fails to disclose a cable having ultrasonic bonding as recited in claims 6, 18 and 21.

The Examiner has rejected claims 80-84 by stating that Fig. 3 of Hara discloses a plurality of raised surface (denoted by 35) on its upper surface, and that is lower surface is substantially planar. Applicant respectfully traverses this rejection. Fig. 3 of Hara shows the top layer and bottom layer to be mirror images, and consequently substantially identical to one another. It appears to be contradictory for the Examiner to assert that the top surface includes raised surfaces, but that the bottom layer is substantially planar. By reciting the limitation of a lower surface that is substantially planar, the Applicant is defining the term as substantially flat, as exemplified in Applicant's Fig. 5 and 7. Because Fig. 3 of Hara does not disclose a cable having a lower surface that is substantially planar, it is respectfully requested that the Examiner's rejections of claims 80-84 be withdrawn.

Because independent claims 1, 18, 21, 22, and 30 are believed to be allowable for the reasons cited above, dependent claims 2-17, 19, 20, 23-29, and 80-84 are also believed to be allowable for those same reasons.

In view of the aforementioned amendments and remarks, favorable consideration of this application is respectfully requested, and a Notice of Allowance for claims 1-30 and 80-84 is respectfully requested. Should the Examiner have any questions or comments, the Examiner is cordially invited to telephone the undersigned attorney, so that the present application can receive an early Notice of Allowance.

In the event that a petition for an extension of time is required to be submitted herewith and in the event that a separate petition does not accompany this response, Applicant hereby petitions under 37 CFR 1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized above. Please charge any shortage or credit any overpayment of fees to BLANK ROME COMISKY & McCAULEY LLP, Deposit Account No. 23-2185 (115584-00287).

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES

In the Abstract

--A flat electrical cable and a modular rotary anvil for assembling a flat electrical cable is provided wherein the flat cable includes an upper and lower layer. [t]The upper layer has [having] ribs protruding along its length that are [and] substantially parallel to one another, and continuous substantially parallel and adjacent seams formed therebetween. Conductors are placed between the upper and lower layers adjacent the seams. The present invention may have upper and lower polyester layers having copper conductors therebetween and the seams ultrasonically welded in order to provide a flat electrical cable for various applications such as incorporation in an automobile clockspring. The modular rotary anvil includes multiple removable and interchangeable segments or inserts which provide the ability to impart a smooth or knurled textured surface pattern to the work-piece. Other inserts include cutting inserts which provide for a seam on the work-piece while a the same time cuts the work-piece along a seam.--